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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,883	11/28/2000	John Edward Tomaschke	7703-PA02	6918

27111 7590 03/26/2003

BROWN, MARTIN, HALLER & MCCLAIN LLP
1660 UNION STREET
SAN DIEGO, CA 92101-2926

EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 03/26/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/724,883

Applicant(s)

TOMASCHKE, JOHN EDWARD

Examiner

Krishnan S Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-21, 23, 25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-21, 23, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 15-21, 23, 25 and 26 are pending in this application.

Claim Objections

Claim 23 depends from the cancelled claim 1 instead of claim 15 in the clean version of the amendment, which seems to be a typographical error. Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 15-21, 23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau et al (US 4,983,291) in view of Koo et al (US 6,063,278).

Chau (291) teaches a composite membrane comprising a supportive porous under-structure, a top layer of cross linked polyamide thin film on the top of a porous polysulfone support structure, the top layer having contacted with an organic sulfonic acid compound whereby the membrane

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shows a salt rejection of at least 25% and flux of about 15 GFD as in instant claim 15 (working examples, col 4 line 51- col 8 line 21, especially col 6 line 58-68, and claims).

Chau does not teach the specific sulfonic acid used as in claim 15. Koo teaches methane sulfonic acid, ethane sulfonic acid and benzene sulfonic acid for making composite reverse osmosis membranes (see col 3 lines 30-37). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Koo in the teaching of Chau to make polyamide reverse osmosis membranes because Koo teaches the specific sulfonic acids to be used appropriate for the sulfonic acid for making the high flux, high rejection membrane (examples 1,2: Koo) that could be handled dry as taught by Chau (col 6 lines 58-68).

Claims 16-21, 23, 25 and 26 add further limitations as follows:

The porous backing is a polysulfone (instant claim 18) (examples) , with aromatic diamine (instant claim 16) aromatic diacyl halide (instant claim 17) (examples, claims), it is a thin film flat sheet (instant claim 19) and spiral wound (claim 20) (col 8 lines 10-12), sulfonic acid in water (instant claim 25), and salt rejection better than 80% at flux greater than 5 GFD (claim 26) (all in Chau: tables, working examples, col 4 line 51- col 8 line 21).

Claims 21 and 23 have specific sulfonic acids Chau does not teach. Koo teaches methane sulfonic acid, ethane sulfonic acid and benzene sulfonic acid for making composite reverse osmosis membranes (see col 3 lines 30-37). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Koo in the teaching of Chau to make polyamide reverse osmosis membranes because Koo teaches the specific sulfonic acids to be used appropriate for the sulfonic acid for making the high flux, high rejection membrane that could be handled dry as taught by Chau (col 6 lines 58-68).

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Response to Arguments

The applicant argues that Chau reference discloses only two specific sulfonic acids. Chau reference discloses generic sulfonic acid (col 6 line 63, col 7 line 8) and claims generic sulfonic acids in claim 1. Specific sulfonic acids with C1-C6 carbon atoms are found in the secondary reference, Koo.

The rest of Applicant's arguments are about the rejection of claims based on Cadotte in view of Koo, which have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon
Patent Examiner
March 24, 2003


W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700